

**IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

ECOFACITOR, INC.,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

Case No. 6:22-cv-00032-ADA

JURY TRIAL DEMANDED

ECOFACITOR, INC.,

Plaintiff,

v.

ECOBEE, INC.,

Defendant.

Case No. 6:22-cv-00033-ADA

JURY TRIAL DEMANDED

ECOFACITOR, INC.,

Plaintiff,

v.

VIVINT, INC.,

Defendant.

Case No. 6:22-cv-00034-ADA

JURY TRIAL DEMANDED

DEFENDANTS' JOINT OPENING CLAIM CONSTRUCTION BRIEF

TABLE OF CONTENTS

| | | |
|------|--|----|
| I. | INTRODUCTION | 1 |
| II. | BACKGROUND ON ASSERTED PATENTS..... | 1 |
| A. | Level of Ordinary Skill | 1 |
| B. | U.S. Patent No. 8,131,497..... | 2 |
| C. | U.S. Patent No. 8,423,322..... | 2 |
| D. | U.S. Patent No. 8,498,753..... | 2 |
| E. | U.S. Patent No. 10,018,371..... | 2 |
| III. | DISPUTED CLAIM TERMS | 3 |
| A. | “the operational efficiency of a heating, ventilation, and air conditioning (HVAC) system” / “the operational efficiency of an HVAC system” (’497, cl. 1 and 7; ’322, cl. 1) | 3 |
| 1. | The preambles are limiting | 3 |
| 2. | The Court should adopt Defendants’ proposed construction..... | 5 |
| B. | “performance characteristic” (’753, cl. 1, 9 and 15)..... | 9 |
| C. | Whether preambles are limiting (’371, cl. 1, 9, and 17) | 10 |
| D. | “calculating with at least one computer, scheduled programming ... based on the scheduled programming” (’371, cl. 9) | 14 |
| E. | “the at least one computer” (’371, cl. 9) | 18 |
| F. | “the difference value” (’371, cl. 17) | 22 |
| IV. | CONCLUSION..... | 26 |

TABLE OF AUTHORITIES

| | Page(s) |
|--|----------------|
| Cases | |
| <i>Acceleration Bay, LLC v. Activision Blizzard Inc.</i> , 908 F.3d 765 (Fed. Cir. 2018)..... | 13 |
| <i>AllVoice Computing PLC v. Nuance Commc'ns, Inc.</i> , 504 F.3d 1236 (Fed. Cir. 2007)..... | 21, 25 |
| <i>Arctic Cat Inc. v. GEP Power Prod., Inc.</i> , 919 F.3d 1320 (Fed. Cir. 2019)..... | 13, 14 |
| <i>August Tech. Corp. v. Camtek, Ltd.</i> , 655 F.3d 1278 (Fed. Cir. 2011)..... | 3, 5, 10, 11 |
| <i>Bell Commc'ns Rsch., Inc. v. Vitalink Commc'ns Corp.</i> , 55 F.3d 615 (Fed. Cir. 1995)..... | 11, 12 |
| <i>Bio-Rad Labs., Inc. v. 10X Genomics Inc.</i> , 967 F.3d 1353 (Fed. Cir. 2020)..... | 5, 12 |
| <i>Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.</i> , 289 F.3d 801 (Fed. Cir. 2002)..... | passim |
| <i>Certain Smart Thermostat Systems, Smart Hvac Systems, and Components Thereof</i> , Inv. No. 337-TA-1185 | 3 |
| <i>Certain Smart Thermostat Systems, Smart Hvac Systems, Smart Hvac Control Systems, and Components Thereof</i> , Inv. No. 337-TA-1258 | 8 |
| <i>In re Downing</i> , 754 F. App'x 988 (Fed. Cir. 2018) | 18, 22, 23 |
| <i>DSW, Inc. v. Shoe Pavilion, Inc.</i> , 537 F.3d 1342 (Fed. Cir. 2008)..... | 21, 25 |
| <i>Eli Lilly & Co. v. Teva Pharm. Int'l GmbH</i> , 8 F.4th 1331 | 11, 13 |
| <i>Georgetown Rail Equip. Co. v. Holland LP</i> , 867 F.3d 1229 | 11, 13 |
| <i>Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.</i> , 381 F.3d 1111 (Fed. Cir. 2004)..... | 26 |

| | |
|--|-----------|
| <i>Maxus Strategic Sys., Inc. v. Aquamin LLC</i> , No. 1:11-CV-073-LY, 2014 WL 3348607 (W.D. Tex. July 8, 2014) | 20, 23 |
| <i>MONKEYmedia, Inc. v. Apple, Inc.</i> , No. A-10-CA-319-SS, 2015 WL 4758489 (W.D. Tex. Aug. 11, 2015)..... | 16, 17 |
| <i>Nautilus, Inc. v. Biosig Instruments, Inc.</i> , 572 U.S. 898 | 9, 20, 23 |
| <i>Novo Indus., L.P. v. Micro Molds Corp.</i> , 350 F.3d 1348 (Fed. Cir. 2003)..... | 20, 24 |
| <i>Pitney Bowes, Inc. v. Hewlett-Packard Co.</i> , 182 F.3d 1298 (Fed. Cir. 1999)..... | 4 |
| <i>Poly-America, L.P. v. GSE Lining Technology, Inc.</i> , 383 F.3d 1303 | 13 |
| <i>Proveris Scientific Corp. v. InnovaSystems, Inc.</i> , 739 F.3d 1367 | 10 |
| <i>Signal IP v. Am. Honda Motor Co.</i> , No. LA CV14-02454 JAK (JEMx), 2015 WL 5768344, (C.D. Cal. Apr. 17, 2015) | 16 |
| <i>STX, LLC v. Brine, Inc.</i> , 211 F.3d 588 | 11 |
| <i>Vizio, Inc. v. Int’l Trade Comm’n</i> , 605 F.3d 1330 (Fed. Cir. 2010)..... | 4 |
| Other Authorities | |
| Manual of Patent Examining Procedure § 2173.05(e)..... | 18, 23 |

TABLE OF EXHIBITS

| Exhibit No. | Exhibit Title |
|--------------------|---|
| 1 | July 22, 2022 Expert Declaration of David M. Auslander (“Auslander Decl.”) |
| 2 | <i>Certain Smart Thermostat Systems, Smart Hvac Systems, and Components Thereof</i> , Inv. No. 337-TA-1185, Public Version of the Initial Determination dated May 3, 2021 |
| 3 | <i>Certain Smart Thermostat Systems, Smart Hvac Systems, and Components Thereof</i> , Inv. No. 337-TA-1185, Commission Opinion dated July 20, 2021 |
| 4 | GOOG-WDTX00032-00000146 to GOOG-WDTX00032-00000155, Control Systems and Applications for HVAC/R by Thomas Horan at pp 6-13, 308-309, produced on July 15, 2022 |
| 5 | GOOG-WDTX00032-00000162 to GOOG-WDTX00032-00000164, Academic Press Dictionary of Science and Technology, produced on July 15, 2022 |
| 6 | <i>Certain Smart Thermostat Systems, Smart Hvac Systems, Smart Hvac Control Systems, and Components Thereof</i> , Inv. No. 337-TA-1258, Order No. 18, Construing the Terms of the Asserted Claims of the Patents at Issue, dated September 1 2021 |
| 7 | <i>Certain Smart Thermostat Systems, Smart Hvac Systems, Smart Hvac Control Systems, and Components Thereof</i> , Inv. No. 337-TA-1258, Public Version of the Initial Determination dated April 4, 2022 |
| 8 | Excerpts of John A. Palmer deposition transcript dated July 31, 2020 in <i>Certain Smart Thermostat Systems, Smart Hvac Systems, and Components Thereof</i> , Inv. No. 337-TA-1185, Bates nos. GOOG-WDTX00032-00000110 to GOOG-WDTX00032-00000133 |
| 9 | <i>Certain Smart Thermostat Systems, Smart Hvac Systems, and Components Thereof</i> , Inv. No. 337-TA-1185, Joint Claim Construction Chart dated March 6, 2020 |
| 10 | File History of U.S. Patent No. 8,423, 322 issued on July 30, 2013 as produced by EcoFactor in this matter as Bates nos. EF_0021147 and EF_0021379 to EF_0021389 |
| 11 | File History of U.S. Patent No. 10,018,371 issued on July 10, 2018 as produced by EcoFactor in this matter at Bates nos. EF_0019762, EF_0019782 to EF_0019786, EF_0019839 to EF_001845, EF_0019861 to EF_0019875, EF_0020570 to EF_0020575, EF_0020584 to EF_0020596, and EF_0020606 to EF_0020610. |

TABLE OF AGREED CONSTRUCTIONS

The parties agree to the following constructions¹:

| Term | Claims | Agreed Construction |
|--|--------------------------------|---|
| “one or more rates of change in temperature” / “a rate of change of temperature” | 497 cl. 1, 7; 753 cl. 1 | “difference between inside temperature measurements divided by the span of time between the measurements” |
| “relate said calculated rates of change to said outside temperature measurements” / “said calculated rates of change are related to said outside temperature measurements” | 497 cl. 1, 7 | “relate” means “correlate” and “related” means “correlated” |
| “compare(s)” | 322 cl. 1, 8; 371 cl. 1, 9, 17 | “analyze to determine one or more similarities or differences between” |
| “forecasted” / “forecasted temperature” | 753 cl. 1 | “a predicted or expected future temperature” |
| “automated setpoint(s)” | 371 cl. 1, 9, 17 | the word “automated” means “computer-calculated” |

¹ Vivint takes no position as to the terms recited in the '753 and '371 patents.

TABLE OF DISPUTED CONSTRUCTIONS

The parties dispute the following constructions²:

| Term | Claims | EcoFactor's Proposal | Defendants' Proposal |
|---|-----------------------------------|---|---|
| "the operational efficiency of a heating, ventilation, and air conditioning (HVAC) system" / "the operational efficiency of an HVAC system" | '497, cl. 1 and 7; '322, cl. 1 | Preambles are not limiting and this term means: "energy or time required by the HVAC system to change inside temperature by a given amount for a set of indoor and outdoor conditions" | Preambles are limiting and this term means: "energy required by the HVAC system to change inside temperature by a given amount over a given time for a set of indoor and outdoor conditions" |
| "performance characteristic" | '753, cl. 1, 9 and 15 | Not indefinite No construction necessary; plain and ordinary meaning | Indefinite |
| Whether preambles are limiting | '371, cl. 1, 9, and 17 | Preambles are not limiting | Preambles are limiting |
| "calculating with at least one computer, scheduled programming ... based on the scheduled programming" | '371, cl. 9 | Not indefinite No construction necessary; plain and ordinary meaning | Indefinite |
| "the at least one computer" | '371, cl. 9 | Not indefinite Refers to the computer that calculates scheduled programming of automated setpoints; alternatively, construe term as "at least one computer" | Indefinite |
| "the difference value" | '371, cl. 17 | Not indefinite "a difference value" | Indefinite |

² Vivint takes no position as to the terms recited in the '753 and '371 patents.

Defendants ecobee, Inc., Google LLC, and Vivint, Inc. (collectively, “Defendants”) hereby submit Defendants’ Joint Opening Claim Construction Brief.

I. INTRODUCTION

Defendants’ proposed claim constructions should be adopted because they are supported by the intrinsic record and provide clarity for the factfinder. Defendants also contend that at least four terms are indefinite because the claims fail to inform a POSITA with reasonable certainty of their scope. By contrast, EcoFactor proposes that no construction is necessary for most of the terms at issue, which would provide no guidance for the factfinder. For the single term for which EcoFactor does propose a construction, EcoFactor’s position contradicts the intrinsic evidence and the plain language of the claim and further renders the claims more ambiguous. Accordingly, the Court should adopt Defendants’ proposed constructions and contentions.

II. BACKGROUND ON ASSERTED PATENTS

There are four asserted patents in this matter: U.S. Patent No. 8,131,497 (the “’497 patent”); U.S. Patent No. 8,423,322 (“the “’322 patent”); U.S. Patent No. 8,498,753 (the “’753 patent”); and U.S. Patent No. 10,018,371 (the “’371 patent”) (collectively, the “Asserted Patents”).

A. Level of Ordinary Skill

As Dr. Auslander explained in his declaration, a Person of Ordinary Skill in the Art (“POSITA”) would have had (1) a Bachelor’s degree in engineering, computer science, or a comparable field of study, and (2) at least five years of professional experience in building energy management and controls or other relevant industry experience, with additional relevant industry experience compensating for a lack of formal education or vice versa. Ex. 1, Auslander Decl. ¶ 27; *see id.* (noting his indefiniteness opinions “would not change if the POSITA were defined to have less experience”).

B. U.S. Patent No. 8,131,497

The '497 patent, titled "System and Method for Calculating the Thermal Mass of a Building," issued on March 6, 2012 and was filed on December 2, 2010. '497 patent at 0001. It claims priority to Application Serial No. 12/211,733, filed on September 16, 2008, which is now U.S. Patent No. 7,848,900, and U.S. Provisional Application No. 60/994,011, filed on September 17, 2007. *Id.*

C. U.S. Patent No. 8,423,322

The '322 patent, titled "System and Method for Evaluating Changes in the Efficiency of an HVAC System," issued on April 16, 2013 and was filed on September 12, 2011. '322 patent at 0001. It claims priority to Application Serial No. 12/211,690, filed on September 16, 2008, which is now U.S. Patent No. 8,019,567; and U.S. Provisional Application No. 60/994,011, filed on September 17, 2007. *Id.* It shares a nearly identical specification with the '497 patent.

D. U.S. Patent No. 8,498,753

The '753 patent, titled "System, Method and Apparatus for Just-in-Time Conditioning Using a Thermostat," issued on July 30, 2013 and was filed on May 4, 2010. '753 patent at 0001. It claims priority to U.S. Provisional Application No. 61/215,657, filed on May 8, 2009. *Id.*

E. U.S. Patent No. 10,018,371

The '371 patent, titled "System, Method and Apparatus for Identifying Manual Inputs to and Adaptive Programming of a Thermostat," issued on July 10, 2018 and was filed on October 8, 2015. '371 patent at 0001. It claims priority through a series of continuation applications to U.S. Provisional Application No. 61/215,999, filed on May 12, 2009. *Id.* at 0001-02.

III. DISPUTED CLAIM TERMS

A. “the operational efficiency of a heating, ventilation, and air conditioning (HVAC) system” / “the operational efficiency of an HVAC system” (’497, cl. 1 and 7; ’322, cl. 1)

| Plaintiff’s Proposal | Defendants’ Proposal |
|---|---|
| Preambles are not limiting and this term means: “energy or time required by the HVAC system to change inside temperature by a given amount for a set of indoor and outdoor conditions” | Preambles are limiting and this term means: “energy required by the HVAC system to change inside temperature by a given amount over a given time for a set of indoor and outdoor conditions” |

EcoFactor previously asserted all of the Asserted Patents against Defendants in *Certain Smart Thermostat Systems, Smart Hvac Systems, and Components Thereof*, Inv. No. 337-TA-1185, (“the 1185 Investigation”). In the 1185 Investigation, the same claim term “operational efficiency” was similarly disputed and the issue was resolved in Defendants’ favor. Specifically, the ITC (both the Administrative Law Judge and the Commission) held that the preambles are limiting, and that Defendants’ proposed construction is correct. EcoFactor now seeks another bite at the apple, in the hope that this Court will reach a different conclusion on these issues. However, as explained further below, the preambles should be found limiting and Defendants’ proposed construction should be adopted.

1. The preambles are limiting

The preambles of claims 1 and 7 of the ’497 patent and of claim 1 of the ’322 patent are limiting because they “define the subject matter of the claim.” *August Tech. Corp. v. Camtek, Ltd.*, 655 F.3d 1278, 1284 (Fed. Cir. 2011); Auslander Decl. ¶¶ 47-58.

a. ’497 Patent

In the 1185 Investigation, the ALJ determined and the Commission affirmed that the preamble is limiting because it provides “life, meaning, and vitality to the claim.” *See* Ex. 2, 1185

ID at 35 (citing *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)). The ALJ and Commission recognized that “[w]ithout the preamble term ‘operational efficiency,’ one of ordinary skill in the art would not understand the purpose for the calculations provided in the body of the claim.” *Id.* The same conclusion should be reached here.

The relevant preambles of the ’497 patent recite a system (claim 1) and a method (claim 7) “for calculating a value for the operational efficiency” of a heating, ventilation and air conditioning (HVAC) system. *See* ’497 patent at cl. 1, 7. The body of the claims require receiving and storing certain temperature measurements, and performing calculations of certain rates of change (which are then related to outside temperature measurements). *See id.*; *see also* Auslander Decl. ¶¶ 49-52. If not for the preambles’ recitation of “calculating a value for the operational efficiency” of an HVAC system, a POSITA would not understand the relevance of the calculations recited in the body of the claims. *See* Auslander Decl. ¶¶ 49-54. For example, a POSITA would not understand the supposed import of calculating the rates of change, or their relation to outside temperature measurements. *See id.* Only when these limitations are placed in context by the preamble, would a POSITA understand the fundamental framework and subject matter of the claimed invention—to calculate a value of the operational efficiency of an HVAC system. *Id.* ¶ 53. Thus, the preambles’ requirement of calculating a value of operational efficiency “states an essential limitation to the claims,” and the preambles should be found to be limiting. *See Vizio, Inc. v. Int’l Trade Comm’n*, 605 F.3d 1330, 1340-41 (Fed. Cir. 2010) (holding that preambles requiring an apparatus and a method for decoding were limiting where “the apparatus of claim 1 and the method of claim 23 would have little meaning without the intended objective of decoding” required by the preambles).

b. ’322 Patent

As with the ’497 patent, the ALJ and Commission determined that the preamble of claim

1 of the '322 patent is limiting. *1185* ID at 36. The ALJ recognized that “the preamble is limiting because it defines that the subject matter for the claims is the evaluation of operational efficiency,” and that “[o]ne of ordinary skill in the art would understand that in order to ‘evaluate changes’ in operational efficiency, the system must compute and compare values for operational efficiency.” The body of the claim language recites limitations that require receiving, storing, and performing comparisons of certain temperature measurements. The preamble provides the relevance of these limitations—to evaluate changes in operational efficiency over time. *See Auslander Decl.* ¶¶ 55-56. Thus, similar to the '497 patent discussed above, the preamble of claim 1 of the '322 patent is limiting because it “define[s] the subject matter of the claim.” *See Aug. Tech.*, 655 F.3d at 1284.

The ALJ in the *1185* Investigation also correctly found that the preamble is limiting because it provides antecedent basis for a term that is recited in the body of the claim. *Id.* (citing *Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002)). Indeed, the body’s reference to “the operational efficiency” finds antecedent basis in the preamble, *Auslander Decl.* ¶ 57, “indicat[ing] a reliance on both the preamble and claim body to define the claimed invention.” *See Catalina Mktg. Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002); *see also Bio-Rad Labs., Inc. v. 10X Genomics Inc.*, 967 F.3d 1353, 1370-72 (Fed. Cir. 2020) (finding a preamble reciting a “method for conducting a reaction in plugs in a microfluidic system” was limiting where it provided the antecedent basis for both “the reaction” and “the microfluidic system” recited in the claim body).

2. The Court should adopt Defendants’ proposed construction

EcoFactor agrees that the “operational efficiency” of an HVAC system includes a measure of energy, as proposed by Defendants. The core dispute between the parties, however, is whether “operational efficiency” can also be defined as “time,” as an alternative to energy. In resolving

this same core dispute in the *1185* Investigation, the ALJ and Commission expressly rejected EcoFactor’s contention that time alone can constitute operational efficiency. *See 1185* ID at 41-42; Ex. 3, *1185* Comm’n Opinion. Although EcoFactor initially filed a notice to appeal the outcome of the *1185* Investigation, notably, EcoFactor shortly thereafter voluntarily dismissed its appeal.

The intrinsic and extrinsic evidence confirm that operational efficiency is an **energy** metric that cannot simply be substituted with **time**, as EcoFactor proposes. *See* Auslander Decl. ¶¶ 59-67. As Dr. Auslander explains, “operational efficiency” in the context of HVAC systems refers to the energy required for the HVAC system to perform an operation over a given time. *Id.* ¶ 60. A POSITA would understand that maximizing the operational efficiency of an HVAC system involves maximizing the ratio between the amount of energy entering the HVAC system and the amount of energy leaving the HVAC system over a given time —and that consuming excess energy could adversely impact the operational efficiency of the system. *Id.* ¶ 61; *see also* Ex. 4 [Horan] at 7, 309. Thus, a POSITA would understand that “operational efficiency” is a measure of energy, as reflected in Defendants’ proposed construction.

This understanding aligns with the intrinsic record, which consistently ties the concept of efficiency to energy.³ For example, the specifications acknowledge that the “SEER” rating is a

³ See ’322 Pat. at 2:41–42 (“leading the heating system to overheat the rest of the house and waste considerable **energy**”); 2:62–64 (“using contemporary techniques for **energy** efficiency such as high levels of insulation”); 3:3–4 (“thermal mass significantly affects many parameters relating to **energy** efficiency”); 3:14–15 (“consumers can reduce costs by taking into account not just how much **energy** they use, but when they use it”); 3:43–44 (“these problems are likely to manifest themselves in the form of higher **energy** bills”); 10:25–28 (“Conventional thermostats . . . waste considerable **energy**”); 13:18–21 (“Additional temperature and/or humidity sensors may allow increased accuracy of the system, which can in turn increase user comfort or **energy** savings”) (emphases added). *See* Auslander Decl. ¶ 64.

“theoretical efficiency of a central air conditioner [HVAC system].” *See* ’322 patent at 3:36–37.⁴ The term “SEER” stands for seasonal energy efficiency ratio, and refers to a ratio between an amount of cooling energy produced (in BTU, for example) and the amount of electricity used to produce that energy (in kWh, for example). Auslander Decl. ¶ 62. The “SEER rating” thus further confirms that “operational efficiency” is a measure of energy—and not time, as EcoFactor proposes. *Id.*

The patents also disclose that different cycle times should be expected for two different gas furnaces, where “one is rated at 50,000 BTUs and the other is rated at 100,000 BTUs.” *See* ’497 patent at 3:48-53 (describing that the cycle times for the higher-capacity furnace should be shorter than for the lower-capacity unit). A POSITA would understand that BTUs are units of energy, and thus this disclosure further acknowledges that operational efficiency is a measure of energy. *See* Auslander Decl. ¶ 63; *see also* Ex. 5 (defining BTUs as “an energy unit that is equivalent to 1054.5 joules or 252 calories,” and the “amount of heat energy required to raise the temperature of one pound of water by one degree Fahrenheit”). Because the patents disclose that different cycle times should be expected for differently rated furnaces (*e.g.*, 50,000 BTUs vs. 100,000 BTUs), it is also clear that, contrary to EcoFactor’s proposed construction, time information alone, outside the context of how much energy is used by an HVAC system, cannot constitute the claimed “operational efficiency.”⁵

⁴ The ’497 and ’322 patents are nearly identical, with differences only in title and field of invention. Citations herein to the ’322 patent are therefore also applicable to the ’497 patent, and vice versa.

⁵ As Dr. Auslander explains, this also aligns with the understanding of a POSITA that operational efficiency cannot simply be time alone. *See* Auslander Decl. ¶¶ 65-66. For example, simply looking at the time that an HVAC system takes to change temperature by a given amount would not inform whether an HVAC system is operating more or less efficiently without understanding the rate at which energy is being consumed by the HVAC system—especially where HVAC systems can have differing modes of operation. *Id.*

The intrinsic record is clear that “operational efficiency” of an HVAC system is not the same as HVAC runtimes or cycle times. In fact, as ALJ Shaw in the *1185* Investigation correctly recognized, the specification is clear that changes in an HVAC system’s runtime do not necessarily indicate that anything has changed about the operational efficiency of an HVAC system. *1185* ID at 42. For example, in describing the embodiment disclosed in Figure 8, the specification clearly explains that if “longer cycle times were due to higher outside temperatures, those cycle times would not indicate the existence of any problems,” *e.g.*, decreases in the operational efficiency of the HVAC system. *See* ’497 patent at 9:26-29. As ALJ Shaw aptly summarized, “because a longer cycle time can occur even though the efficiency of the system is operating normally (or has not changed), the cycle time references in the specification do not indicate that time alone is a measure of efficiency.”⁶ *1185* ID at 42. Accordingly, contrary to EcoFactor’s proposed claim construction, the specification does not equate time and operational efficiency.⁷ *See* Auslander Decl. ¶¶ 65-66.

Therefore, the “operational efficiency” of an HVAC system should be construed as “energy required by the HVAC system to change inside temperature by a given amount over a given time for a set of indoor and outdoor conditions.”

⁶ In another ITC Investigation, *Certain Smart Thermostat Systems, Smart Hvac Systems, Smart Hvac Control Systems, and Components Thereof*, Inv. No. 337-TA-1258 (“the 1258 Investigation”), between EcoFactor and Defendants involving different, albeit related, patents that are not at issue here—and (at least for ecobee) are not before this Court in any litigation—the construction of “operational efficiency” of an HVAC system was also disputed. There, ALJ Elliot also found that time alone cannot constitute operational efficiency. *See* Ex. 6, 1258 Order No. 18 at 18-20; Ex. 7, 1258 ID at 78-80. However, the 1258 Commission Opinion later adopted EcoFactor’s proposed construction in the context of those patents.

⁷ At most, the specification discloses that the server may use cycling time to help determine characteristics of a **building**, which does not indicate that time itself is a value for the operational efficiency of an **HVAC system**. *See* ’497 Pat. at 9:7-25 (explaining that a server can determine a relative efficiency of a home because “server 106 is aware of the cycle times in nearby houses.”).

B. “performance characteristic” (’753, cl. 1, 9 and 15)⁸

| Plaintiff’s Proposal | Defendants’ Proposal |
|---|-----------------------------|
| Not indefinite No construction necessary; plain and ordinary meaning | Indefinite |

Claims 1, 9, and 15 of the ’753 patent are indefinite for reciting “performance characteristic.” Auslander Decl. ¶¶ 90-97. The intrinsic record fails to explain what is or qualifies as a “performance characteristic,” rendering the claims indefinite for failing to “inform, with reasonable certainty, those skilled in the art about the scope of the invention.” *Nautilus*, 572 U.S. at 901.

Each claimed method of the ’753 patent requires “retrieving at least one performance characteristic” of a climate control system (or an air conditioning system, for claim 15). This “performance characteristic” must then be used in an unspecified manner, along with a number of other factors (*e.g.*, internal temperatures, external temperatures, forecasted temperatures, thermal performance values of a structure), to calculate and determine setpoints and associated target times, which, in turn, are used to control the climate control system. The patent’s bare recitation merely requires retrieving and using the “performance characteristic,” but does not offer any guidance as to the scope of the claimed “performance characteristic”—especially because neither the claims nor the specification provide any detail regarding the specific calculations. *See* Auslander Decl. ¶¶ 92-96. In fact, EcoFactor’s own expert in the *I185* Investigation testified he was “not prepared to answer where within [] the patent it teaches those performance characteristics—or it teaches the inputs.” Ex. 8, [Palmer Depo. Tr.], p. 169.

The only mention of a “performance characteristic” in the ’753 patent outside of the claims is in the abstract, which merely mentions using a “performance characteristic” to determine an

⁸ The ’753 patent is not asserted against Vivint, and Vivint takes no position on this term.

appropriate time to turn on a climate control system—offering no further explanation beyond what appears in the claims. The rest of the '753 patent makes no other mention of this term. That the “performance characteristic” is used to make general, undisclosed calculations does not explain the scope of a “performance characteristic.” Auslander Decl. ¶ 96. Nor does the prosecution history inform a POSITA as to the meaning of the claimed “performance characteristic.” Notably, even EcoFactor itself refuses to identify the scope of this term, arguing only that it should have its plain and ordinary meaning.⁹

Accordingly, for the reasons above, the Court should find that the term “performance characteristic” is indefinite.

C. Whether preambles are limiting ('371, cl. 1, 9, and 17)¹⁰

| Plaintiff's Proposal | Defendants' Proposal |
|-----------------------------|-----------------------------|
| Preambles are not limiting | Preambles are limiting |

The preambles of independent claims 1, 9, and 17 of the '371 patent are limiting because they are “necessary to give life, meaning, and vitality to the claim.” *Catalina*, 289 F.3d at 808; Auslander Decl. ¶¶ 98-104. For example, the “claim’s preamble may limit the claim when the claim drafter uses the preamble to define the subject matter of the claim.” *Aug. Tech.*, 655 F.3d at 1284. A preamble is “limiting when it recites particular structure or steps that are highlighted as important by the specification.” *Proveris*, 739 F.3d at 1372.

Here, claims 1, 9, and 17 recite methods and an apparatus that “detect[s]” or “incorporat[es] manual changes to one or more [automated] setpoints for a thermostatic controller.” Each step is

⁹ In the *1185* Investigation, EcoFactor argued that “performance characteristic” should be interpreted to mean “characteristic indicative of a capability to change inside temperature.” *See* Ex. 9, at 8. However, EcoFactor has apparently abandoned that argument here. Ultimately, the ITC did not rule on this claim construction issue because EcoFactor dropped the relevant claims of the '753 patent prior to the hearing.

¹⁰ The '371 patent is not asserted against Vivint, and Vivint takes no position on this term.

in furtherance of achieving this recited detection or incorporation. Auslander Decl. ¶ 100 (citing ’371 patent at 8:24-49, 9:1-29, 9:48-10:31). Indeed, the specification describes change detection and incorporation as central to the invention. *Id.* (citing ’371 patent at Abstract, 2:11-14, 5:66-6:43). Thus, the preambles are limiting because they “are not merely statements of effect but rather statements of the intentional purpose for which the methods must be performed.” *Eli Lilly*, 8 F.4th at 1342.

That is, change detection or incorporation is not a mere potential benefit or intended use of the claims; it is the feature that is expressly identified as “patentably significant.” *Catalina*, 289 F.3d at 809; Auslander Decl. ¶ 101. That distinguishes these facts from cases where the preamble was found not to be limiting because it merely recited a perceived benefit or an intended use of the invention. *See, e.g., STX*, 211 F.3d at 591; *Georgetown Rail*, 867 F.3d at 1236-37. Instead, as is often the case with claims to a method of using an apparatus, these preambles “define the subject matter of the claim” and are therefore limiting. *Aug. Tech.*, 655 F.3d at 1284; *see also Eli Lilly*, 8 F.4th at 1341 (“[O]ur claim construction analysis of statements of intended purpose in methods of using apparatuses ... has tended to result in a conclusion that such preamble language is limiting,” because such claims “typically rely entirely on what the method ‘does,’” and “what a method does is usually recited in its preamble.”).

The preambles of claims 1, 9, and 17 are limiting for the additional reason that they provide antecedent basis for terms recited in the claim body. “[D]ependence on a particular disputed preamble phrase for antecedent basis may limit claim scope because it indicates a reliance on both the preamble and claim body to define the claimed invention.” *Catalina*, 289 F.3d at 808. When a claim drafter “chooses to use *both* the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent

protects.” *Bell Commc’ns Rsch., Inc. v. Vitalink Commc’ns Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995) (emphasis in original). For example, a preamble reciting a “method for conducting a reaction in plugs in a microfluidic system” was limiting where it provided the antecedent basis for both “the reaction” and “the microfluidic system” recited in the claim body. *Bio-Rad*, 967 F.3d at 1370-72.

Here, the preambles of claims 1, 9, and 17 each recite “one or more [automated] setpoints.” ’371 patent at 8:24-25, 9:1-3, 9:48-50. The recited “setpoints” cannot be read separately from the remainder of the preambles because each preamble recites detecting or incorporating manual changes to those setpoints for a thermostatic controller. Auslander Decl. ¶ 102. Immediately following the preamble, the first limitation in each claim body recites “*the* one or more [automated] setpoints.” *Id.* at 8:26-29, 9:4-7, 9:51-10:3. Thus, claims 1, 9, and 17 each rely on their preambles for antecedent basis, and accordingly, their preambles are limiting. *See Catalina*, 289 F.3d at 808; *Bell Commc’ns*, 55 F.3d at 620; *Bio-Rad*, 967 F.3d at 1370-72.

The prosecution history of the ’371 patent provides further confirmation that the preambles of claims 1, 9, and 17 are limiting. Auslander Decl. ¶ 103. During prosecution, the examiner rejected pending claims 1, 9, and 17 as indefinite, observing that certain “setpoint” terms in each of those claims lacked antecedent basis. Ex. 11, ’371 File History at EF_0019841-42. For each of claims 1, 9, and 17, the examiner expressly suggested that the applicant “correct the preamble” in order to address those rejections. *Id.* The applicant did not dispute the examiner’s rejections. Instead, the applicant readily accepted the examiner’s suggestions, amending claims 1, 9, and 17 to conform the preambles and claim bodies, thereby providing “correct antecedent basis.” *Id.* at EF_0019862-66 (amended claims), EF_0019867-68 (applicant remarks). The

prosecution history thus demonstrates that the applicant itself understood and intended to rely “on both the preamble and claim body to define the claimed invention.” *Catalina*, 289 F.3d at 808; Auslander Decl. ¶ 103. Accordingly, the preambles are limiting.

The relevant question here is whether the preambles “recite[] essential structure or steps” or are “necessary to give life, meaning, and vitality to the claim.” *Acceleration Bay, LLC v. Activision Blizzard Inc.*, 908 F.3d 765, 770 (Fed. Cir. 2018) (internal quotation marks omitted); cf. *Georgetown Rail*, 867 F.3d at 1237 (preamble was not limiting where it was “not an essential feature of the invention”). They do.

This is especially true for claims 1 and 9, which are method claims. *See Arctic Cat Inc. v. GEP Power Prod., Inc.*, 919 F.3d 1320, 1328 (Fed. Cir. 2019) (this “rule is grounded in the statutory distinction, in identifying the permissible subject matter of a patent claim, between a physical product (which may be defined in part by its claimed functional capabilities) and activities that constitute a process (which may include a new ‘use’ of a known invention)”). Here the essential step, “what the inventors” claim to have “actually invented and intended to encompass by the claim,” *Catalina*, 289 F.3d at 808, is detecting manual changes to the setpoints of a thermostat through data collection and analysis. ’371 patent at title page, 2:11-14, 5:66-6:43; Auslander Decl. ¶¶ 100-01. This detection is “essential to understand” the claims—it is not the alleged benefit, but rather is the invention itself. *Catalina*, 289 F.3d at 808; *see also Poly-Am.*, 383 F.3d at 1310 (a preamble is limiting where it is “an important characteristic of the claimed invention”).

The Federal Circuit has “not hesitated to hold preambles limiting” when they “are not merely statements of effect but rather statements of the intentional purpose for which the methods must be performed.” *Eli Lilly*, 8 F.4th at 1342. Indeed, the Federal Circuit’s “claim construction

analysis of statements of intended purpose in methods of using apparatuses ... has tended to result in a conclusion that such preamble language is limiting.” *Id.* at 1341. And “[e]ven with respect to apparatus or composition claims,” the Federal Circuit has, “when warranted by the facts, found statements of intended purpose to be limiting.” *Id.* For the reasons set forth above, the preambles of claims 1, 9, and 17 are limiting. “calculating with at least one computer, scheduled programming... based on the scheduled programming” (’371 patent, cl. 9).

D. “calculating with at least one computer, scheduled programming ... based on the scheduled programming” (’371, cl. 9)¹¹

| Plaintiff’s Proposal | Defendants’ Proposal |
|---|----------------------|
| Not indefinite | Indefinite |
| No construction necessary; plain and ordinary meaning | |

Claim 9 of the ’371 patent is indefinite because it includes a circular limitation that fails to communicate the scope of the claimed invention with reasonable certainty. Auslander Decl. ¶¶ 105-13. Specifically, claim 9 includes a limitation that recites “*calculating scheduled programming* of automated setpoints in the thermostatic controller *based on the scheduled programming*.” ’371 patent at 9:8-13. The antecedent basis of “the scheduled programming” is the same scheduled programming that is to be calculated. Auslander Decl. ¶ 107. Thus, the plain claim language recites scheduled programming that is calculated based on itself. *Id.*

A POSITA would not understand how to calculate scheduled programming based on the same scheduled programming. *Id.* ¶ 108. The claim limitation would not make logical sense to a POSITA because it presupposes the existence of the thing that is intended to be calculated. *Id.* The rest of the “calculating” claim limitation does not explain how the scheduled programming is

¹¹ The ’371 patent is not asserted against Vivint, and Vivint takes no position on this term.

calculated based on the same scheduled programming. *Id.* Instead, the rest of the claim limitation—“comprising at least a first automated setpoint at a first time and a second automated setpoint at a second time to control the heating ventilation and air conditioning system”—describes what the “scheduled programming” includes, not how it is calculated. *Id.*

The rest of claim 9 provides no further guidance regarding how the scheduled programming is calculated. *Id.* ¶ 109. Indeed, “scheduled programming” does not appear elsewhere in claim 9. The dependent claims do not recite, much less elaborate on, the “scheduled programming.” *Id.* Instead, the dependent claims address different recited components: the thermostatic controller and the at least one computer. *Id.* (citing ’371 patent at 9:30-47 (cls. 10-16)).

The specification of the ’371 patent provides no indication of the meaning of “calculating scheduled programming ... based on the scheduled programming.” *Id.* ¶ 110. The only discussion of “scheduled programming” in the ’371 patent is in the Abstract: “For example, one or more of the exemplary systems compares the actual setpoint at a given time for the thermostatic controller to an expected setpoint for the thermostatic controller in light of the scheduled programming.” *Id.*; ’371 patent at Abstract. A POSITA would not glean any further meaning from this passing reference to “scheduled programming.” Auslander Decl. ¶ 110. This statement describes the separate “comparing” step in claim 9, not the “calculating” step. *Id.* It also presumes that the scheduled programming already exists. *Id.*

The prosecution history for the ’371 patent provides no additional clarity. *Id.* ¶¶ 111-12. In fact, the prosecution history only adds to the ambiguity. *Id.* As originally submitted, claim 9 recited, “calculating scheduled programming of setpoints in the thermostatic controller based on *the predicted rate of change*, the scheduled programming comprising...” Ex. 11, ’371 File

History at EF_0019783-84. The applicant later amended the claim to recite “automated setpoints,” but retained “the predicted rate of change” language. *Id.* at EF_0019863-64.

The examiner then rejected claim 9 based on indefiniteness. *Id.* at EF_0020572-73. The examiner explained that “the predicted rate of change” was indefinite for three reasons. *Id.* First, “the predicted rate of change” lacked antecedent basis. *Id.* Second, it was unclear what the rate of change referred to. *Id.* Third, it was unclear how the rate of change was actually being predicted. *Id.* Rather than address these substantive issues, the applicant simply struck the language “the predicted rate of change” from the claim. *Id.* at EF_0020586-87, EF_0020590. In doing so, the applicant merely replaced one indefiniteness problem with another—the circular language now before the Court. Apparently overlooking the newly introduced indefiniteness problem, the examiner allowed the claim without further comment. *See id.* at EF_0020606-10.

This Court has previously held indefinite a similarly circular claim. *See MONKEYmedia, Inc. v. Apple, Inc.*, No. A-10-CA-319-SS, 2015 WL 4758489, at *11-13 (W.D. Tex. Aug. 11, 2015). In *MONKEYmedia*, the claim limitation at issue recited “determining whether said expansion segment cue has been selected ... if said expansion segment cue has been selected.” *Id.* The Court explained that the limitation was incoherent because it made “determining whether an expansion segment cue has been selected” dependent upon whether “said expansion segment cue has been selected.” *Id.* Nothing in the claim language or the specification provided further clarification to a POSITA. *See id.* The Court concluded that “[g]iven its apparent circularity,” the claim limitation at issue was “not successful in communicating with clarity the scope of the invention” claimed by the asserted patent. *Id.* It was therefore indefinite under the *Nautilus* standard. *Id.*

Another district court has also applied *Nautilus* to hold a claim indefinite based on its

apparent circularity. *See Signal IP v. Am. Honda Motor Co.*, No. LA CV14-02454 JAK (JEMx), 2015 WL 5768344, at *53-56 (C.D. Cal. Apr. 17, 2015). In *Signal IP*, the claim limitation at issue was “a threshold torque range indicative of conditions of relatively low vehicle torque demand.” *Id.* at *54. The specification stated that the system relied on “a signal indicative of vehicle torque demand to determine whether the vehicle torque demand is within the threshold torque range.” *Id.* The district court concluded that the claim presented “circular language” in which “the threshold torque range” indicated a level of “torque demand,” while the level of “torque demand” was used to determine “the threshold torque range.” *Id.* After analyzing the specification, prosecution history, and expert testimony for any source of clarity, the district court further concluded that it “remains entirely unclear how an expert could consistently discriminate between relatively high and low torque demands even for a single car.” *Id.* at *55-56. Accordingly, the claim was indefinite because it failed to define the scope of the invention with reasonable clarity. *Id.* at *56.

So too here. Claim 9 of the '371 patent includes circular language that renders the claim incoherent. Auslander Decl. ¶ 113. The specification and prosecution history provide no clarification. *Id.* Instead, the specification only describes “scheduled programming” in a single inapplicable passing reference. *Id.* And the prosecution history establishes that the incoherent language was introduced by the applicant itself when it attempted to sidestep *other* indefiniteness issues raised by the examiner. *Id.* In view of these disclosures, a POSITA would not understand the scope of claim 9 with reasonable certainty. The Court should hold claim 9 invalid because its circular language is “not successful in communicating with clarity the scope of the invention” claimed by the '371 patent. *See MONKEYmedia*, 2015 WL 4758489, at *13.

E. “the at least one computer” (’371, cl. 9)¹²

| Plaintiff’s Proposal | Defendants’ Proposal |
|--|-----------------------------|
| Not indefinite Refers to the computer that calculates scheduled programming of automated setpoints; alternatively, construe term as “at least one computer” | Indefinite |

Claim 9 of the ’371 patent is indefinite because it recites the term “the at least one computer” without any antecedent basis, thereby rendering the scope of the claim not reasonably ascertainable to a POSITA. Auslander Decl. ¶¶ 114-24. This lack of antecedent basis is not subject to correction by the Court because the claim language and specification do not suggest a particular interpretation of “the at least one computer” in the context of claim 9. *See id.* In any event, the corrections proposed by EcoFactor are inappropriate and inadequate to cure the indefiniteness of claim 9 and its dependent claims. *Id.* ¶¶ 121-22. Accordingly, claim 9 and its dependent claims are invalid for indefiniteness.

“A claim is indefinite when it contains words or phrases where the meaning is unclear, which may be the result of the lack of an antecedent basis.” *In re Downing*, 754 F. App’x 988, 996 (Fed. Cir. 2018). For example, “[t]he lack of clarity could arise where a claim refers to ‘said lever’ or ‘the lever,’ where the claim contains no earlier recitation or limitation of *a lever* and where it would be unclear as to what element the limitation was making reference.” *Id.* (quoting MPEP § 2173.05(e)) (emphasis in original). That is precisely the situation here.

Claim 9 introduces the term “*the* at least one computer,” but does not previously recite any “computer” at all. Specifically, other than the recitation in claim 9 of “communicating the actual setpoints from the thermostatic controller to the at least one computer” (’371 patent at 9:17-18),

¹² The ’371 patent is not asserted against Vivint, and Vivint takes no position on this term.

the claim does not include any other reference to, much less any description of, the term “the at least one computer.” Auslander Decl. ¶ 116 (citing ’371 patent at 9:1-29). A POSITA would not be reasonably certain as to whether “*the* at least one computer” refers to a previously recited claim element, such as the claimed “heating ventilation and air conditioning system” (which is “operatively connected” to the thermostatic controller), or a new claim element altogether. *Id.*

The dependent claims only add to the confusion. Dependent claim 13 recites “[a] method as in claim 9 in which *at least one computer* is in communication with the thermostatic controller.” ’371 patent at 9:39-40. It is unclear whether claim 13 refers to “the at least one computer” recited in claim 9, or to another computer. Auslander Decl. ¶ 117. The ordinary rules of antecedent basis suggest that the computer of claim 13 is a different computer from the one recited in claim 9 because claim 13 does not recite “*the* at least one computer.” *Id.* Further, claim 13 would be entirely redundant to claim 9 if it refers to the same computer recited in claim 9, because the computer recited in claim 9 is *already* in communication with the thermostatic controller. *Id.* (citing ’371 patent at 9:17-18 (“communicating the actual setpoints from the thermostatic controller to the at least one computer”)). A POSITA would therefore likely conclude that claim 13 recites a different computer. *Id.* But claims 14 and 15, which depend from claim 13, each recite “*the* at least one computer.” A POSITA would not understand whether claims 14 and 15 refer to the computer newly introduced in claim 13 or to the computer recited in claim 9. *Id.* Nor would a POSITA understand whether they all refer to the same “at least one computer.” *Id.*

The specification further exacerbates the ambiguity. It is not clear from the specification what is meant by “*the* at least one computer.” Auslander Decl. ¶¶ 118-19. For example, Figure 1 illustrates “computers 104” and “server computers 106” (’371 patent at 2:52-59, Fig. 1; *see also id.* at Fig. 2 (illustrating computers 104 and 106)), but neither the figure nor its description specifies

which computer receives “the actual setpoints from the thermostatic controller,” as required in the claim. Auslander Decl. ¶ 118. The specification also explains that the thermostat may also communicate through the computer network via a “local computer” (’371 patent at 4:23-27), but does not clarify whether the “local computer” is computer 104, computer 106, or yet another computer. The POSITA would have even found it unclear whether the recited computer could be within *the thermostat itself* or in a local computer. Auslander Decl. ¶ 119; *compare* ’371 patent at 8:1-6 (stating “much or even all of the work being accomplished by remote server 106 may also be done by thermostat 108 if that device has sufficient processing capabilities, memory, etc.”), *with id.* at 8:6-9 (stating “some or all of these steps may be undertaken by a local processor such as a local personal computer”).

In view of this ambiguity, claim 9 fails to inform a POSITA about the scope of the claim with reasonable certainty. *Nautilus*, 572 U.S. at 901 (2014); *see also* *Maxus Strategic Sys., Inc. v. Aquamin LLC*, No. 1:11-CV-073-LY, 2014 WL 3348607, at *6 (W.D. Tex. July 8, 2014) (applying *Nautilus* to antecedent basis issue).

EcoFactor proposes two alternative constructions that are self-contradictory and do not resolve the ambiguity. A district court can correct “obvious minor typographical and clerical errors in patents.” *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003). But correction of a claim is only appropriate where “(1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims.” *Id.* Here, EcoFactor’s proposed corrections are subject to reasonable debate, so adopting either of them would be inappropriate.

The problem with EcoFactor’s first proposed construction, “[r]efers to the computer that

calculates scheduled programming of automated setpoints,” is that there is no such computer recited in the claim. Auslander Decl. ¶ 121. While the parties agree that the word “automated” means “computer-calculated,” claim 9 does not recite any “computer” that “calculates scheduled programming of automated setpoints.” Thus, this is not a simple matter of correcting an “obvious minor typographical [or] clerical error.” EcoFactor effectively asks the Court to rewrite claim 9 to insert a new computer to calculate scheduled programming. That is particularly problematic in view of the specification’s discussion of multiple computers and devices that could perform the recited calculations—including the thermostat itself.

EcoFactor’s proposed alternative construction, “at least one computer,” may at first appear to correct an obvious minor typographical error by striking the word “the.” But, further inspection reveals that EcoFactor’s proposed correction is subject to reasonable debate because it leaves unresolved the sources of ambiguity discussed above. Auslander Decl. ¶ 122. For instance, EcoFactor’s alternative construction leaves unresolved whether the calculating step is performed by the “at least one computer” or another device, as well as whether the automated setpoint is calculated by the same “at least one computer” or another device. *Id.* EcoFactor’s alternative construction would also leave dependent claim 13 ambiguous with regard to whether its recitation of “at least one computer” is the same or different from the one in EcoFactor’s alternative construction. *Id.* So too with claims 14 and 15, which would have two potential antecedent bases for “at least one computer”—one in claim 9, and another in claim 13. *Id.*

Similarly, the other claims do not resolve this ambiguity. Independent claim 1 specifies that the calculating step is performed “with at least one computer.” ’371 patent at 8:30-34. But claim 1 and claim 9 are standalone independent claims directed to different subject matter, so a POSITA would not understand that claim 1’s recitation of “at least one computer” applies to claim

9. Auslander Decl. ¶ 123; *see also AllVoice Computing PLC v. Nuance Commc'ns, Inc.*, 504 F.3d 1236, 1248 (Fed. Cir. 2007) (presumption that each claim in a patent has a different scope). It would be improper to import a limitation from claim 1 into claim 9. *See DSW, Inc. v. Shoe Pavilion, Inc.*, 537 F.3d 1342, 1348 (Fed. Cir. 2008) (improper to import limitations across claims). The fact that claim 1 provides antecedent basis for “at least one computer” simply underscores the fact that claim 9 does not.

At bottom, claim 9 lacks an antecedent basis for “the at least one computer,” and the claims and specification provide no further clarity as to what “the at least one computer” means in the context of claim 9. Indeed, the claims and specification inject even more ambiguity for the reasons described above. Thus, claim 9 fails to provide adequate notice to a POSITA as to its scope. Auslander Decl. ¶¶ 114-24. The Court should hold claim 9 invalid for indefiniteness.

F. “the difference value” (’371, cl. 17)¹³

| Plaintiff’s Proposal | Defendants’ Proposal |
|--|----------------------|
| Not indefinite “a difference value” | Indefinite |

Claim 17 of the ’371 patent is indefinite because it recites the term “the difference value” without any antecedent basis, thereby rendering the scope of the claim not reasonably ascertainable to a POSITA. Auslander Decl. ¶¶ 125-35. This lack of antecedent basis is not subject to correction by the Court because the claim language, specification, and prosecution history do not reasonably suggest a correct interpretation of “the difference value” in the context of claim 17. *See id.* In any event, the correction proposed by EcoFactor is inadequate to cure the indefiniteness of claim 17. *Id.* ¶ 134. Accordingly, claim 17 and its dependent claims are invalid for indefiniteness.

“A claim is indefinite when it contains words or phrases where the meaning is unclear,

¹³ The ’371 patent is not asserted against Vivint, and Vivint takes no position on this term.

which may be the result of the lack of an antecedent basis.” *In re Downing*, 754 F. App’x 988, 996 (Fed. Cir. 2018). For example, “[t]he lack of clarity could arise where a claim refers to ‘said lever’ or ‘the lever,’ where the claim contains no earlier recitation or limitation of a lever and where it would be unclear as to what element the limitation was making reference.” *Id.* (quoting MPEP § 2173.05(e)) (emphasis in original). That is precisely the situation here.

Claim 17 introduces the term “the difference value” in the last three words of its very last limitation. The claim recites computer hardware that “determin[es] whether the at least one of the actual setpoints and the one or more automated setpoints are the same or different based on the difference value.” ’371 patent at 10:26-31. Claim 17 does not include any other reference to, much less any description of, the term “difference value.” Auslander Decl. ¶ 127 (citing ’371 patent at 9:38-10:25). The dependent claims do not elaborate on “the difference value.” *Id.* (citing ’371 patent at 10:32-51). The specification of the ’371 patent does not use the term “difference value” at all. *Id.* ¶ 129. The prosecution history for the ’371 patent is also silent on the meaning of “difference value.” *Id.*

“Difference value” is not a term of art that would have a specific meaning to a POSITA in the context of thermostat technology. *Id.* ¶ 128. While a POSITA might generally understand a “difference value” to be a value that is the difference of other values, the POSITA would first need to understand which values are being used to determine that difference value and the manner in which the difference is calculated in order to ascertain the scope of “the difference value” as recited in claim 17. *Id.* The claims, specification, and prosecution history do not provide that required information. *Id.* ¶ 129. A POSITA would not be reasonably certain of whether “the difference value” refers to values within claim 17, or values expressed elsewhere. *Id.* Even if a POSITA could identify the values at issue, a POSITA would not be reasonably certain of the manner in

which the difference value is to be calculated. *Id.* Thus, claim 17 fails to inform a POSITA about the scope of the claim with reasonable certainty. *Nautilus*, 572 U.S. at 901 (2014); *see also Maxus Strategic Sys., Inc. v. Aquamin LLC*, No. 1:11-CV-073-LY, 2014 WL 3348607, at *6 (W.D. Tex. July 8, 2014) (applying *Nautilus* to antecedent basis issue).

With its proposed construction of “a difference value,” EcoFactor appears to request that the Court correct the claim’s antecedent basis problem by replacing “the” with “a.” A district court can correct “obvious minor typographical and clerical errors in patents.” *Novo Indus., L.P. v. Micro Molds Corp.*, 350 F.3d 1348, 1354 (Fed. Cir. 2003). But correction of a claim is only appropriate where “(1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation of the claims.” *Id.*

While EcoFactor’s proposed correction may at first appear to address an obvious minor typographical error, further inspection reveals that EcoFactor’s proposed correction is subject to reasonable debate. As noted above, a POSITA would not understand whether “the difference value” refers to a difference of values recited *within* the claim, or to a difference of some other values *outside* the claim. Changing “the” to “a” suggests that the recited difference value is not limited to values within the claim. That interpretation remains subject to reasonable debate, as the claim language, specification, and prosecution history provide no insight into what calculations can form “the difference value” in claim 17.

Even if adopted by the Court, EcoFactor’s proposed construction of “a difference value” would not remedy the indefiniteness problem in claim 17. A POSITA would still be at a loss as to which values are used to calculate the recited difference value, and how. Auslander Decl. ¶¶ 133-34. The penultimate limitation of claim 17 recites a comparison of “the one or more

automated setpoints associated with the scheduled programming with at least one of the actual setpoints” (’371 patent at 10:22-25), but claim 17 does not provide any express indication that this particular limitation, as opposed to others in the claim, results in the calculation of the recited “difference value.” Auslander Decl. ¶ 130. And EcoFactor’s proposed construction actually points away from the penultimate limitation because “*a* difference value” is not limited to values recited within claim 17. *Id.* ¶ 134.

The other claims do not resolve this ambiguity. Independent claim 1 specifies that the difference value is “based on comparing at least one of the actual setpoints at the first time for the thermostatic controller to the first automated setpoint for the thermostatic controller.” ’371 patent at 8:24-49. But claim 1 and claim 17 are standalone independent claims directed to different subject matter, so a POSITA would not understand that claim 1’s description of a “difference value” also applies to claim 17. Auslander Decl. ¶ 131; *see AllVoice Computing PLC v. Nuance Commc’ns, Inc.*, 504 F.3d 1236, 1248 (Fed. Cir. 2007) (presumption that each claim in a patent has a different scope). Claim 1 is an independent claim directed to “[a] method for detecting manual changes to one or more setpoints for a thermostatic controller.” ’371 patent at 8:24-25. By contrast, independent claim 17 is directed to “[a]n apparatus for detecting manual changes to one or more automated setpoints for a thermostatic controller.” *Id.* at 9:48-50. It would be improper to import a limitation from claim 1 into claim 17. *See DSW, Inc. v. Shoe Pavilion, Inc.*, 537 F.3d 1342, 1348 (Fed. Cir. 2008) (improper to import limitations from apparatus and system claims into method claims). The fact remains that claim 1 explains what a “difference value” is, while claim 17 does not.

The specification is similarly unavailing. The patent describes “the currently preferred method for detecting the occurrence of a manual override event” (’371 patent at 5:66-67), but

makes no mention of any difference value. Auslander Decl. ¶ 132. Even if a difference value was mentioned in the patent, it is improper for a construction to import a preferred embodiment into a claim. *DSW*, 537 F.3d at 1348 (“[W]hen claim language is broader than the preferred embodiment, it is well-settled that claims are not to be confined to that embodiment.”); *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1117 (Fed. Cir. 2004) (“[E]ven where a patent describes only a single embodiment, claims will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” (internal quotations omitted)).

At bottom, claim 17 lacks the description of “the difference value” that claim 1 provides, while the specification, prosecution history, and a POSITA’s knowledge provide no further clarity as to what “the difference value” is in the context of claim 17. Auslander Decl. ¶¶ 125-35. The Court should hold claim 17 invalid for indefiniteness.

IV. CONCLUSION

Defendants respectfully request that the Court adopt their proposed constructions.

Dated: July 22, 2022

Respectfully submitted,

ALLEN OVERY LLP

By: /s/Shamita Etienne-Cummings

Bijal V. Vakil

(admitted to the Western District of Texas)

Eric Lancaster (*admitted pro hac vice*)

ALLEN & OVERY LLP

530 Lytton Avenue, 2nd Floor

Palo Alto, CA 94301

Telephone: (650) 388-1703

GoogleEcoFactorWDTX@AllenOvery.com

Shamita Etienne-Cummings

(admitted to the Western District of Texas)

James Gagen (*admitted pro hac vice*)

Megan M. Ines (*admitted pro hac vice*)

Emily Lipka (*admitted pro hac vice*)

Jacob Rothenberg (*admitted pro hac vice*)

Alan M. Billharz (*admitted pro hac vice*)

ALLEN & OVERY LLP

1101 New York Avenue, NW

Washington, DC 20005

Telephone: (202) 683-3810

GoogleEcoFactorWDTX@AllenOvery.com

Grace I. Wang (*admitted pro hac vice*)

James Reed (*admitted pro hac vice*)

ALLEN & OVERY LLP

1221 Avenue Of The Americas

New York, NY 10020

Telephone: (212) 819-8574

GoogleEcoFactorWDTX@AllenOvery.com

Robert A. Van Nest (*admitted pro hac vice*)

Leo L. Lam (*admitted pro hac vice*)

Kristin E. Hucek (*admitted pro hac vice*)

Anna Porto (*admitted pro hac vice*)

Edward A. Bayley (*admitted pro hac vice*)

Eric B. Hanson (*admitted pro hac vice*)

Eugene M. Paige (*admitted pro hac vice*)

Gregory Washington (*admitted pro hac vice*)

Justin Dean Schneider (*admitted pro hac vice*)

R. Adam Lauridsen (*admitted pro hac vice*)

Victor Chiu (*admitted pro hac vice*)

KEKER, VAN NEST & PETERS LLP

633 Battery Street

San Francisco, CA 94111-1809
Telephone: (415) 391-5400
Facsimile: (415) 397-7188
econest-kvp@keker.com

Michael E. Jones (TX Bar No. 10929400)
Shaun William Hassett (TX Bar No. 24074372)
POTTER MINTON PC
110 N College
Tyler, TX 75702
Telephone: (903) 597-8311
Facsimile: (903) 531-3939
Email: mikejones@potterminton.com
Email: shaunhassett@potterminton.com

Attorneys for Defendant Google LLC

/s/ Steven M. Lubezny

Steven M. Lubezny
Timothy J. Carroll
Catherine N. Taylor
VENABLE LLP
227 West Monroe Street, Suite 3950
Chicago, IL 60606
Telephone: (312) 820-3400
Fax: (312) 820-3401
TJCarroll@Venable.com
SMLubezny@Venable.com
CNTaylor@Venable.com

Manny J. Caixeiro
VENABLE LLP
2049 Century Park East, Suite 2300
Los Angeles, CA 90067
Telephone: (310) 229-9900
Fax: (310) 229-9901
MJCaixeiro@Venable.com

Megan S. Woodworth
VENABLE LLP
600 Massachusetts Avenue, NW
Washington, DC 20001
Telephone: 202-344-4507
Fax: 202-344-8300
Email: MSWoodworth@Venable.com

Daniel A. Apgar
VENABLE LLP
1290 Avenue Of The Americas
New York, NY 10104
Telephone: (212) 218-2209
Fax: (212) 218-2100
Email: DApgar@Venable.com

Jennifer Parker Ainsworth
Texas State Bar No. 00784720
WILSON, ROBERTSON & CORNELIS, P.C.
909 ESE Loop 323, Suite 400
Tyler, Texas 75701
Telephone: (903) 509-5000
Fax: (903) 509-5092
jainsworth@wilsonlawfirm.com

Attorneys for Defendant Ecobee, Inc.

/s/ Fred I. Williams

Fred I. Williams (Lead Attorney)
Texas State Bar No. 00794855
WILLIAMS SIMONS & LANDIS PLLC
The Littlefield Building
601 Congress Ave., Suite 600
Austin, TX 78701
Tel: 512-543-1354
fwilliams@wsltrial.com

Todd E. Landis
State Bar No. 24030226
tlandis@wsltrial.com
Williams Simons & Landis PLLC
2633 McKinney Avenue, Suite 130 #366
Dallas, TX 75204
Telephone: (512) 543-1357

John Wittenzellner
Pennsylvania Bar No. 308996
johnw@wsltrial.com
Williams Simons & Landis PLLC
1735 Market Street, Suite A #435
Philadelphia, PA 19103
Telephone: (512) 543-1373

Attorneys for Defendant Vivint, Inc.

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on July 22, 2022, the foregoing was served on all counsel of record by e-mail.

By: /s/ _____
Attorney Name